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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/557,672	04/25/2000	Michael K. Brand	113337	9338
23838	7590	04/28/2005	EXAMINER	
KENYON & KENYON 1500 K STREET, N.W., SUITE 700 WASHINGTON, DC 20005			PHAN, THAI Q	
			ART UNIT	PAPER NUMBER
			2128	

DATE MAILED: 04/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/557,672

Applicant(s)

BRAND ET AL.

Examiner

Thai Q. Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>04/11/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to applicants' reply filed on 12/22/2004.

Claims 1-21 are pending in the action.

Drawings

The drawings filed on 12/22/2004 are acceptable.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on Apr. 11, 2005 was considered.

Specification

Due to applicants' reply to correct the printing quality on pages 12-13, the specification objection is withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.

Evidence that claim 15 includes a mathematical expression, which fails to correspond in scope with that which applicant disclosure. The test function as recited in claim 15 is not well-defined in the specification. Applicants are requested to clarify the issue by showing where in the specification disclosed such feature.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biggs et al, US patent no. 6,301,970 B1.

As per claim 1, Biggs discloses a cumulative model for mean time failure analysis with feature limitations very similar to the claimed invention (Abstract and Field of the Invention). According to Biggs, the method includes steps

Determining testing data for a product, the stress testing data representing the response of the product operating in a first environment (col. 4, lines 17-30, col. 5, lines 1-5, cols. 7-11),

Calculating the mean time between failures for the product operating in a second environment based on the accelerated stress testing data as claimed. Biggs discloses stress history data and a variety of test loads or all the stresses in determining product reliability. Biggs does not expressly disclose an accelerated test data as claimed.

Practitioner in the art at the time of the invention was made would have found a cumulative of all the stress tests in the rejection above implies the claimed acceleration stress because stress test is to shorten or accelerate time required to test product component, and to identify failure potentials. In other

words, stress test is an accelerated test by accelerating test to all possible stress data and exposing to all conditions of the stresses.

As per claim 2, Biggs discloses various working environments being used to analyze or predict failure time (col. 6, lines 54-67, cols. 7-8).

As per claim 3, Biggs discloses stress data derived from stress tests, temperature tests, and vibration tests.

As per claims 4-7, Biggs discloses various stress tests or different test loads to test product life cycle (col. 5, lines 7-19, cols. 7-10, for example).

As per claim 8, Biggs discloses test specification for military application (Background of the Invention). This would imply the claimed BOM test.

As per claims 9-11, Biggs discloses the stress test during product design cycle, manufacturing, applications for commercial use, computer test, etc.

As per claims 12-14, Biggs discloses stress test data and cumulative test models for service life, product fatigue, operating condition of the design product, etc. to reduce test time and sort out failure potentials. Biggs does not expressly disclose the claimed accelerated test data.

Practitioner in the art at the time of the invention was made would have found Biggs stress test is to shorten or reduce time required to test product component, and to identify failure potentials. In other words, stress test in Biggs is to accelerate stress test by applying all stress data and exposing to all conditions of the stresses to accelerate the test and reduce the required time to test.

As per claim 15, Biggs discloses mean time between failures for various loading conditions or working environment as claimed.

As per claims 16-21, Biggs discloses test data, stress testing, temperature tests, vibration tests, and a computer system for implementation computation algorithm to compute failure time of the product design for various working conditions as claimed.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. The claimed invention is directed to non-statutory subject matter because claims 1-21 are directed to a mathematical method, even using a computer program for simple calculation, to calculate for a mean time between failures of the product by determining test data for a particular environment and applying the test data to calculate failure time of the product. The claimed invention is a set of stress test data and the applied stress data to identify potentials of failure. In other words, they are related to non-technology art. The claims are not directed to a new and useful calculation process because the related steps in the present method claim 1 are just applying a set of test data into a component test model. It's not new in mathematical algorithms or mathematical calculation. The claims are thus directed to a non-statutory subject matter.

Response to Arguments

Applicant's arguments filed 12/22/2004 have been fully considered but they are not persuasive.

In response to applicant's argument Biggs does not disclose stress testing data as claimed for, the examiner disagrees with. Biggs discloses stress testing data (col. 5, line 66 to col. 6, line 8, col. 8, lines 42-65).

In response to applicants' argument Biggs does not disclose or imply accelerated stress test data for the stress test, the examiner disagrees with. Biggs stress test is to shorten or reduce time required to test product component, and to identify failure potentials. In other words, stress test is an accelerated stress test by applying all stress data and exposing to all conditions of the stresses to accelerate the test and reduce the required time to test.

In response to applicants' argument the claimed invention, particularly, claim 1 is not a mathematical algorithm and should not be rejected under 35 USC 101, the examiner disagrees with. The claimed invention is a set of stress test data and the applied stress data to identify potentials of failure. In other words, they are related to non-technology art. The claims are not directed to a new and useful calculation process because the related steps in the present method claim 1 are just applying a set of test data into a component test model. It's not new in mathematical algorithms or mathematical calculation. The claims are thus directed to a non-statutory subject matter.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. US patent no. 5,030,905, issued to Figal, Timothy, on July 1991
2. US patent no. 5,391,502, issued to Wei, Yi-Hen, on Feb. 1995
3. US patent no. 5,744,975, issued to Notohardjono et al, on Apr. 1998

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Thai Phan whose telephone number is 571-272-3783.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jean Homere can be reached on 571-272-3780. The fax

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phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Apr. 20, 2005


Thai Phan
Patent Examiner
Art Unit 2128